SOME ASPECTS OF PROCUREMENT
IN THE NAVY

by

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INTRODUCTION

During those periods when the Navy is either substantially expanding or is being maintained as a relatively powerful naval force, the procurement of equipment represents some 50% of every dollar spent by the Navy.

The Navy's procurement program during the fiscal years 1951, 1952 and 1953 represents some 18 billions of appropriated dollars. The magnitude of this program dollar-wise coupled with its impact on industry and its strong and direct bearing on naval preparedness motivated the writer to study the nature of procurement and some of the circumstances affecting procurement.

This paper, which discusses some aspects of naval procurement, is based on that study. The principal sources of information were: official U. S. Naval publications and documents; Munitions Board documents; Economic Policy documents of the National Association of Manufacturers; various texts on procurement; selected documents of the National Association of Purchasing Agents; and interviews with personnel in the Office of Naval Material, Office of the Navy Comptroller and the Bureau of Ships.

CHAPTER I

THE PROCUREMENT CONCEPT

The Meaning of Procurement

The Secretary of Defense defines "procurement" as the acquisition of personnel, property, or services by purchasing, renting, leasing, or other means; and includes such supply management functions as design, standards determination, specifications writing, selection of suppliers, financing and contract administration.[1] In order to compare the military definition of procurement with that of industry, let us examine the view of one authority, Mr. Howard T. Lewis, Professor of Marketing at ~~Howard~~ Harvard University. He says that the procurement function in industry is generally considered to consist of the following series of steps:[2]

1. Determination of the proper quantities to buy at any given time.
2. Setting the delivery dates for each order.
3. Location of acceptable sources of supply.
4. The negotiation of satisfactory terms and conditions of purchase.
5. Follow-up on orders overdue.
6. Provide for inspection as necessary.
7. Provide for shipping instructions.
8. Provide for proper storage.
9. Settle the vendor's claim

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[1] Department of Defense, *Glossary of Terms used in Comptroller Activities*, 25 January 1952.

[2] Howard T. Lewis, *Procurement - Principles and Cases*, Chicago: Richard D. Irwin, Inc., 1949.

Although procurement as defined by the Defense Department includes the acquisition of personnel and services, this paper is limited to a discussion of the procurement of material.

A study of the foregoing definitions shows that procurement in industry and the military is quite similar. It is believed that this similarity stems, for the most part, from the many production problems common to industry and to the military which arose during World War II. The demand on the economy of the country was so great that material quantities, quality, delivery schedules, sources and specifications took on extremely important production aspects, requiring exceptional planning and coordination in each industrial plant and in the utilization of the resources of the country as a whole.

Organizing for Procurement

It is noted that the procurement function as defined tends to cut across the typical industrial organization and across the Navy organization. This fact coupled with management's decision as to the extent of centralization and decentralization largely determine the shape the organization may take. In industry the trend seems to be toward a policy of centralized procurement and decentralized purchasing.[3] The procurement officer in the larger company typically occupies a position on a parallel with such other chief officers as production, sales, and secretary and Treasurer.[4]

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[3] American Management Association, Problems and Policies of decentralized Management, General Management series number 154, New York, N.Y., PP 18-19.

[4] National Association of Purchasers Handbook (1939) Vol I, p. 26.

In the Navy procurement is centralized as to policy and decentralized as to operations. The policy function is discharged by the Chief of Naval Material, who is a staff assistant to the Secretary of the Navy.[5] The operating functions of procurement are delegated to the Bureaus of the Navy (see Fig. 1).

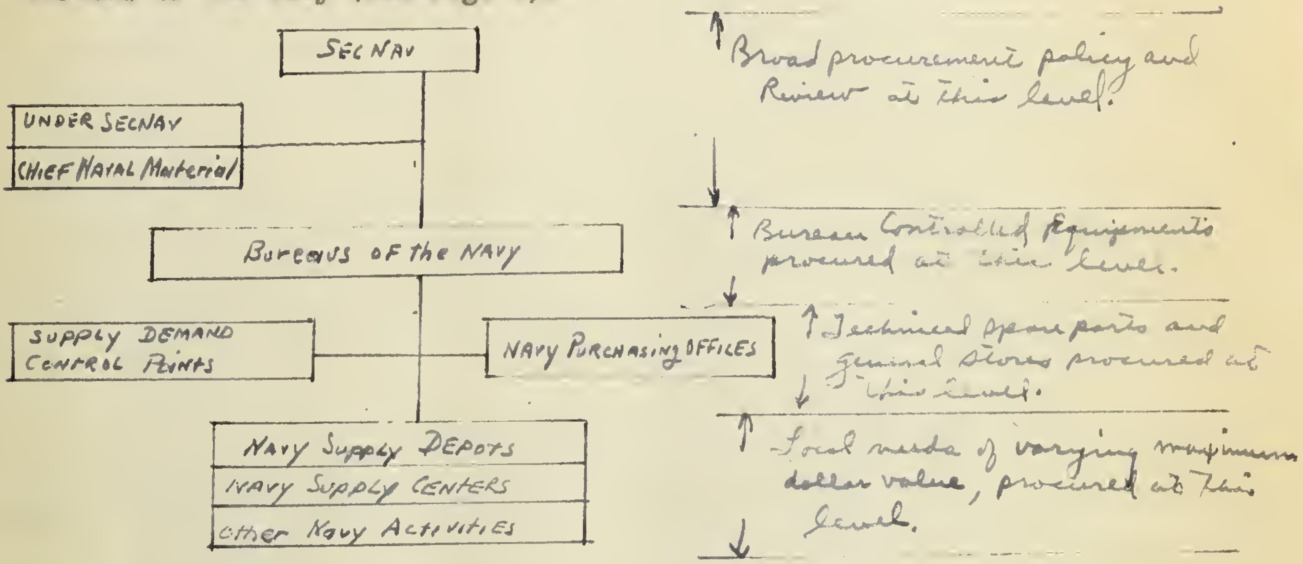

Fig. 1. Simple Diagram Showing Navy Organization for Procurement - Showing centralized policy and decentralized operations.

In general, the organization provides for the centralized procurement of major items of equipment, such as ships and aircraft, by the cognizant Bureau and at Bureau level. Less significant items, under the technical cognizance of a Bureau, are procured at a point outside the respective Bureau by either a Supply Demand Control Point or a Navy Purchasing Office. Items needed at the local field level and not in stock are procured locally subject to such procurement instructions as may be in effect. It might be of interest to note the distribution of purchases for fiscal year 1952 by organizational level of procurement (see Table 1.).

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[5] Public Law 432, 80th Congress, 2nd Session, Sec. 7(a).

TABLE 1.
PERCENTAGE DISTRIBUTION OF TOTAL PROCUREMENT DOLLARS AND PURCHASE ACTIONS BY PROCURING LEVEL
Fiscal Year 1952

Organizational Level	Dollar Percentage.	Percentage of Purchase ~~Items~~ Actions.	Kinds of Items
Bureau	89	3	Major items such as ships, aircraft, automotive, and major components.
Supply Demand Control Points, & Navy Purchasing Offices	9	45	Technical spare parts such as ships spare parts, electronic and aviation spares. General stores not of a technical nature.
Supply Depots, Supply Centers, other Activities	2	52	Items needed at the local field level not of a technical nature and not in stock.

Note: These percentages are based on procurement amounting to 10.6 billions of dollars and a total of 1,387,704 purchase actions.
Source: Office of Naval Material

The Procurement Concept - A Summary

The Navy procurement system is based on a recognition of the need for maintaining, in the operating bureaus, clear lines of responsibility incident to the technical, budgetary, and procurement phases of their operations; and in addition, the need for coordinating and directing the efforts of the bureaus in performing their procurement function. Hence, overall procurement policies, plans and procedures stem from the Secretary of the Navy level and serve to coordinate and guide the operating (material) bureaus in either procuring material centrally or decentrally through a field activity under its technical control.

CHAPTER II

THE PROCUREMENT CYCLE

Chapter I has outlined the general organizational framework for Navy procurement. Within this framework and subject to broad procurement policy is found a continuing process which might be thought of as "the procurement cycle". For the sake of analysis, this cycle may be divided into the following phases: (1) The broad requirements phase, (2) The budget phase, (3) Technical and procurement planning phase, and (4) Contract phase. Since an understanding of these phases is of considerable help in understanding the overall procurement function, each will be discussed in the paragraphs which follow.

The Broad Requirements Phase of the Procurement Cycle

Requirements as used herein will refer only to material requirements. The term "material requirements" is intended to include the needs for all physical in animate things such as ships, aircraft, engines, propellor assemblies, motors, carburetors, armatures, shafts, resistors, copper sheets, nickel wire, wool and copper ore.

Problems in this field become radically different as the observer proceeds along the line of supply, from raw materials to the distribution of end items (items ready for their intended use). For the purpose of this paper, we will focus attention on the development of requirements at the Secretary of the Navy level. Navy requirements are generated by the national objectives and the strategic plans developed by the National Security Council and the Joint Chiefs of Staff respectively. On the basis of the strategic

plans, the Chief of Naval Operations translates forces into end products and personnel and transmits these to the Munitions Board (Office of the Secretary of Defense) where they are assembled and reviewed for industrial feasibility. Following this review, the Joint Chiefs and the Navy review questionable areas, with a view to making adjustments by either modification of the strategic plan, establishing priorities, making allocations or accepting shortages. Figure 1a shows diagrammatically, the development of these requirements.

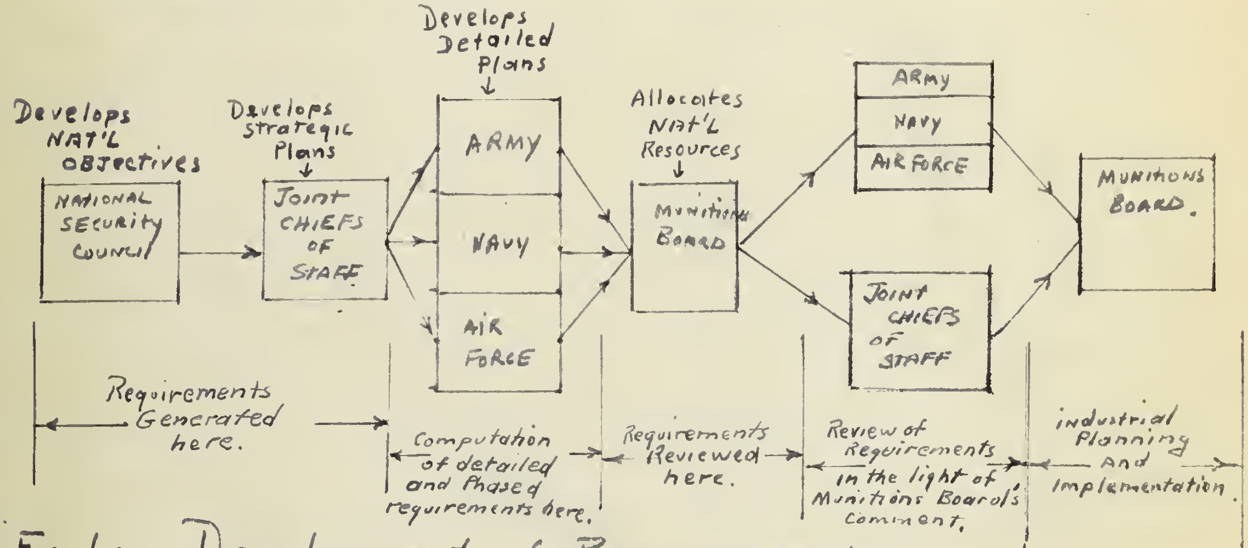


Fig. 1a. Development of Requirements.

When the requirements in support of the strategic plans have been reviewed and found feasible, the Munitions Board is charged with planning and coordinating with industry, the needs for the military.

The detailed computation and time phasing of requirements is done in the various bureaus under the policy guidance of the Chief of Naval Operations. The actual requirements for procurement represent the difference between the total requirements needed to support the strategic plans and

the total material in the supply system ready for issue. In developing the requirements to support the plans, the computations should reflect such things as: (1) Unfilled orders, (2) Forecast of issues, (3) Pipeline requirements, (4) Stock levels, (5) Replacement and special operational requirements. Now that we have noted the development of requirements let us proceed to the next phase.

The Budget Phase

This is a highly important phase both from the public and military points of view. As large military material requirements take substantial resources away from civilian use while at the same time increasing his tax burden, it is essential that the budget be carefully formulated to reflect only real needs and that the costing be as accurate as feasible. At the same time the military do not wish to jeopardize their needs incident to supporting the strategic plans and the national objectives. This phase is generally concurrent with one or more of the other phases.

During this phase, the various bureaus translate their material respective material requirements into dollars and formulate their portion of the Navy budget request. This is usually done 15 - 18 months in advance of the fiscal year under consideration. After the budget is formulated it undergoes a series of reviews finally ending up in Congress as the "President's Budget". From the procurement point of view, this phase does not end until after Congress has passed an appropriation bill covering the budget request and obligating authority has been made available to the procuring bureaus. If the obligating authority is different from that requested, then each bureau must revise its material requirements accordingly. This phase is consummated when the bureaus have authority

to obligate and when their requirements reflect the dollar value of that authority. In theory, the procurement cycle could not continue beyond this phase prior to the granting of funds by Congress. In actual practice, however, the Bureaus go right ahead working out the procurement for approximately one-half the dollar value of the material requested in the budget. This enables the Bureau to start contracting the minute obligating authority is received.

Technical and Procurement Planning Phase

With authority to obligate and with the general pattern of requirements firm, the technical branches of the bureaus are ready to buckle down to the task of generating the data needed for preparing "Requests for Procurement." This data consists of detailed specifications, quantities, delivery schedules, suggested sources of supply, extent of government-furnished aid, material, and facilities, method of inspection, points of delivery, shipping instructions, and packing instructions. After a "Request for Procurement" has been prepared, the fiscal division reviews the appropriation data thereon and commits the funds. It is during this phase that determinations are made as to material priorities, CMP classification, impact on industry, production allocation, and feasibility of manufacture by government. A typical procedural flow of material requirements through the technical stages in the Bureau of Ordnance is reflected in Table 2.

TABLE 2.
TYPICAL STEPS IN PROCESSING MATERIAL REQUIREMENTS THROUGH THE TECHNICAL STAGES - BUREAU OF ORDNANCE

Step No.	Function	Organizational Unit
1.	Items released for service use.	CNO
2.	Determines quantities and identification of items to be procured.	Planning and Program Div.
3.	Verifies overall allotments and apportionments - Determines cognizant technical branch.	Budget & Estimates Div.
4.	Determines the engineering details schedules of delivery, and other data needed incident to procurement.	Material Division (Technical Branch)
5. 5.	Prepares "Procurement Request."	Material Division
6.	Reviews appropriation data & commits funds.	Fiscal Division
7.	Assigns program numbers, material priority rating. Maintains daily log of obligations.	Material Division (Planning Branch)
8.	Reviews for adequacy of facilities, tools, and production allocation.	Material Division (Industrial planning Branch)
9.	Checks impact on industry, checks feasibility of manufacture by the government. Signs the procurement request.	Assistant Director, Material Division

This phase is, in my opinion, the most difficult and at the same time the most important of the procurement cycle. For it is here that design and production data, specifications, working plans, Bill of Material, changes, facilities, Government-furnished material, scheduling, and allocation of scarce materials is considered and integrated into the overall procurement picture. In addition, where a manufacturer is required to manufacture a new item or one requiring a change in the

production line, allowance must be made for the time required to set-up the new production line. This time allowance is generally referred to as "lead time", and is extremely important in making up the contract and delivery schedule of components to an end item such as a ship or tank. This "lead time" represents the time required for production engineering incident to production of an item. Production engineering involves the manufacturing plan, and the proper machine tool, jigs, fixtures, dies, gauges, punches, and plant layout for accomplishing the work. It is estimated that this phase may extend from 2½ to 5½ years for the more complicated new items scheduled for production.

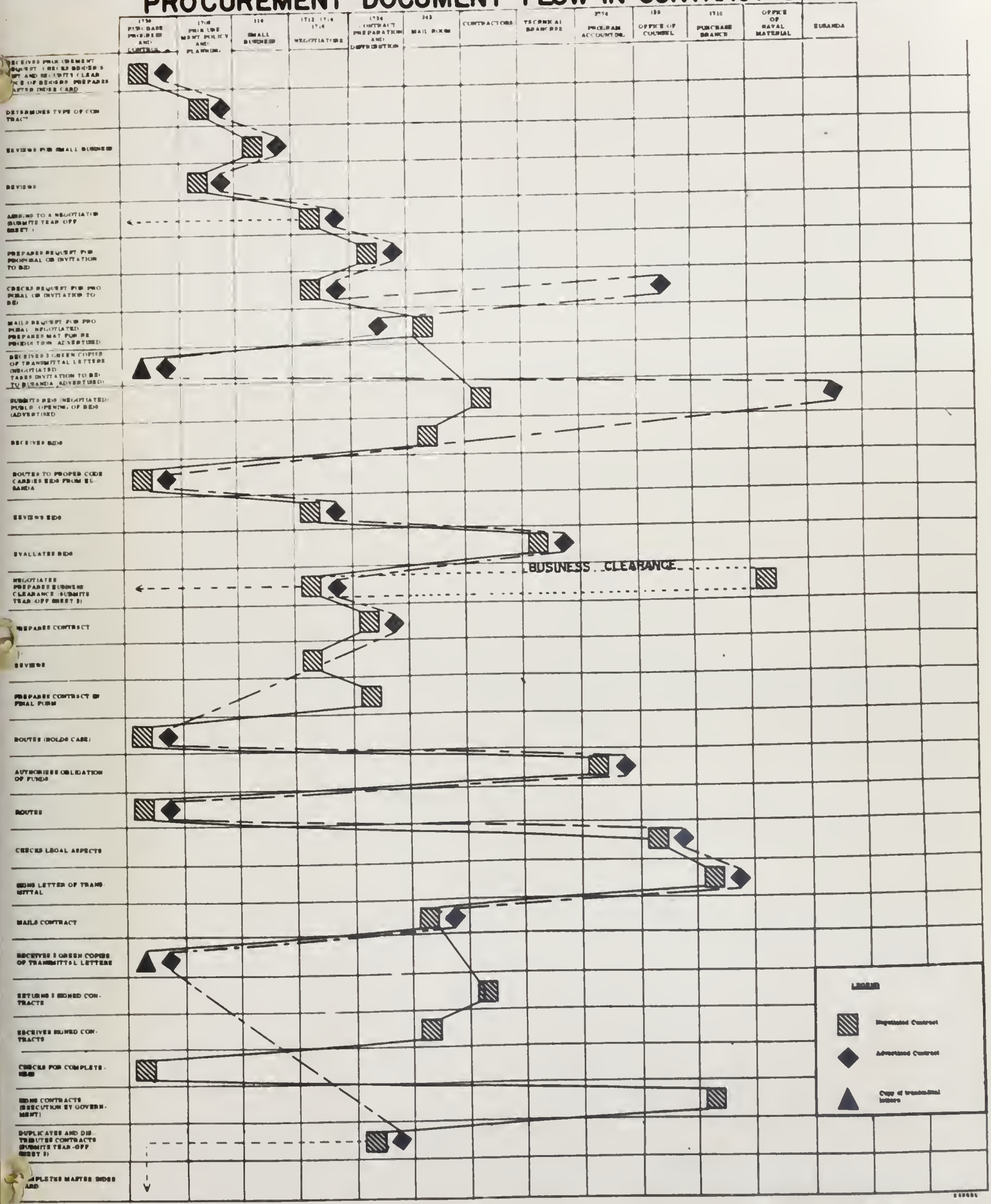
The Contract Phase

This phase of the procurement cycle is, as the name implies, primarily concerned with the creation of an authoritative paper setting forth what is required, how much is required, when and where it is required. It is further concerned with the execution of a final contractural agreement and subsequent amendments and modifications thereto. Following contract execution is contract administration which extends until the contract is terminated. Contract administration includes all correspondence having to do with amendments, modifications, changes, contract financing, price redeterminations, terminations, and information as to contract performance under contracts held.

The contract work is performed in the contract division of the various bureaus. An analysis reveals that this work is performed in steps as follow:

Bu Ships

PROCUREMENT DOCUMENT FLOW IN CONTRACT DIVISION



Dec. 1, 1952

Fig. 2

in procedure, this could be cut to 3 1/2 months without reducing contract effectiveness.[2]

It is during this phase, that the contracting officer must consider procurement policies handed down by the President, the National Security Council, Congress, and the Department of Defense. He must:[3]

1. Favor small business
2. Honor the "buy-American" clause in the law governing stock-piling.
3. Favor distressed areas.
4. Maintain economic equity between geographical areas and groups.
5. Broaden the nation's economic base.
6. Encourage the dispersal of industry.
7. Avoid concentration of economic power.
8. Support the governments antimonopoly program.
9. Enforce mandatory antidiscrimination, child labor, fair labor, minimum wage, and compulsory subcontracting laws and regulations.
10. Observe pricing regulations.
11. Observe procurement regulations.

This phase ends when the material under contract is delivered, thus concluding the procurement cycle.

It might be well to summarize at this point. The procurement cycle actually commences with the inception by the Chief of Naval Operations of an idea or new equipment. From the beginning until an equipment is produced and ready for service may take some eight years. See Figure 3

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[2] Department of the Navy, Report of a Study of Contracting Organization, Methods and Procedures, September 1952.

[3] National Association of Manufacturers, Cut the Budget, How and Where, Economic Policy Division series No. 47, New York, March 1952, p. 12.

for the breakdown of this time for the first production model of a jet aircraft.

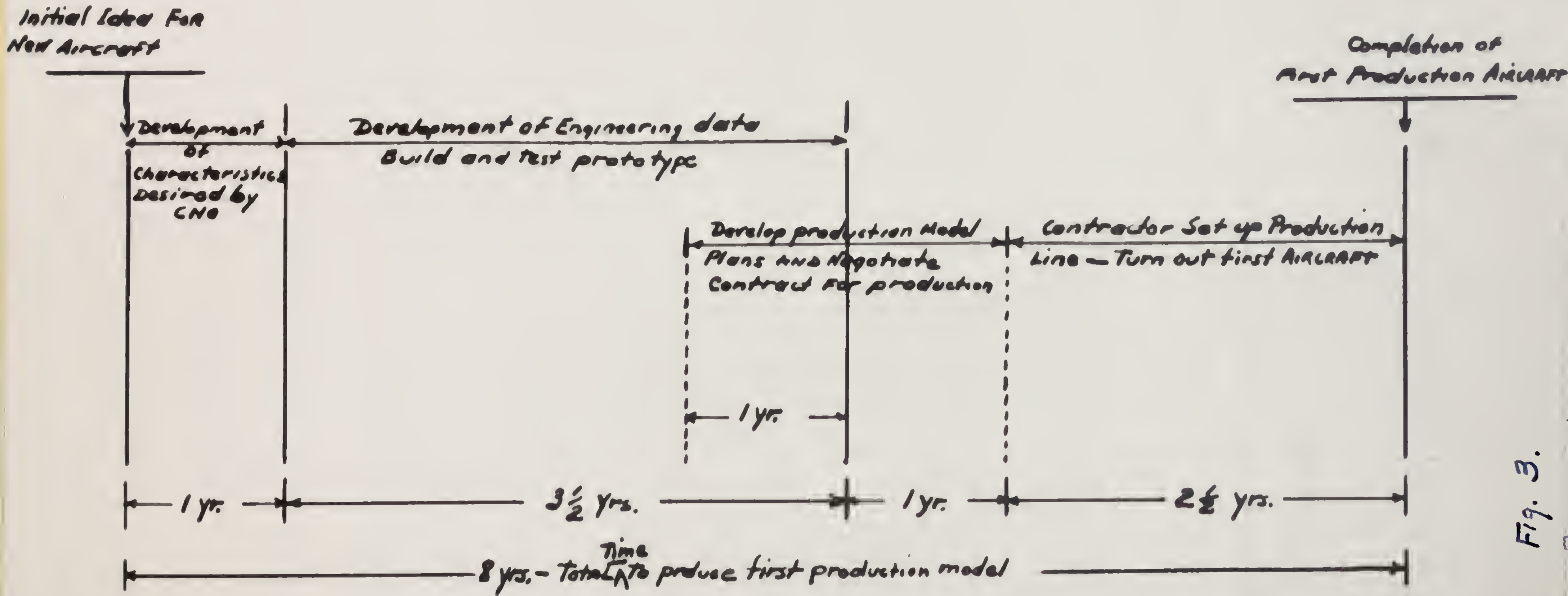

Fig. 3.

Fig. 3. Shows total Time Required to Produce First Production Model of a Typical Jet Aircraft.

MAY 3, 1953

CHAPTER III

SOME PROBLEMS OF PROCUREMENT

Before getting into the problems, it might be advantageous to review the purpose of procurement and to consider some general principles governing good procurement.

Stated simply, the end purpose of procurement is to insure that the right quantity of the proper material is available for use when needed and where needed.[1] From this simple statement and from the overall Navy point of view, it is possible to deduce some of the more important principles governing good procurement. These might be:[2]

1. The timely submission of requirements, the phasing of requirements, phased placement of orders, and phased delivery schedules.
2. A consideration of market conditions, source selections, quality specifications, and the possibility of economy through substitutes.
3. Continued improvement of procedures by such considerations as: efforts to reduce contract preparation time; simplification and standardization of contract forms and accounting procedures; improving the process of negotiation through standardizing procedures and instructions; proper use of formal advertising and negotiation in the placement of contracts.

Although a number of problems result from legislation requiring that special consideration be given to; small business, distressed areas, "buy-American", economic equity between geographic areas and groups, broadening the economic base, and the dispersal of industry, the problems to be discussed in subsequent paragraphs are intra-Navy. The two most

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[1] Howard T. Lewis, Procurement-Principles and Cases, Chicago: Richard D. Irwin, Inc., 1949, pp. 1-21.

[2] These principles are believed equally applicable to procurement in industry.

difficult problems seem to be relative to: (1) design and specification, and (2) realistic delivery schedules.

The Design and Specification Problem

This problem is related to such subsidiary problems as:

1. Simplification of design.
2. Standardization of design.
3. Adoption of commercial designs where practicable.
4. Simplification of specifications (in language, form).
5. Standardization of specifications.
6. Adoption of commercial specifications.
7. Concurrent development and production.
8. Design changes during production.
9. Redesign to eliminate critically scarce material.
10. Providing adequate production data on time.

A number of these, it may be observed, are concerned with the matter of improving the producibility characteristics of equipment. This idea of improving such characteristics is not new, but the scope and magnitude of day-to-day operations in the bureaus tend to keep these problems in the background except on a crises basis. Hence, it is something that needs constant emphasis.

To continue our discussion, let us assume that military equipment falls into three categories. They are:

1. That which is designed for a strictly military purpose and which has no comparable civilian counterpart.

2. That which must perform with such precision or dependability as to require redesign, or substantially improved design of a civilian type item.
3. That which is so similar to commercial equipment as to allow procurement of standard articles, substantially without modification. (This category creates no particular problem.)

It should be emphasized at this point that in today's mechanized warfare, the military must call on a vast number of industries to meet its needs and can no longer depend on a few select companies who have learned to produce in accordance with special military designs and specifications. To achieve the required volume of output from many sources which are geared to commercial standards, the military may be compelled to accept the idea of commercial designs and specifications to a much greater extent than at present, as an important step towards solution of its production difficulties. I do not believe it would be inaccurate to state at this point, that widespread research and development in industrial, commercial, and consumer fields, have upgraded many such products to the point where they are equal or superior to material produced under special military specifications.

This problem does not lend itself to solution by directives or by new procedures. But rather, it is one requiring constant emphasis, an educational program and maximum use of personnel with experience in the matter of producibility. Increased exchange of information between bureaus' technical and production officers, and personnel in industry should help. Likewise, improvement should result from closer cooperation between bureau and CNO personnel, particularly in matters pertaining to simplification in design and producibility.

It is believed that production problems sometimes result when design data needed for production is not provided in time to permit scheduled deliveries. In some cases, this may happen from inadvertence or inefficient follow-up of a development, or lead contract producer. In other cases, a deliberate decision may be made to bring the latest design in a weapon or equipment into immediate production, even though production engineering is not completed and production data is not available. An attempt to accelarate deliveries of an "assembly-line" item by concurrent design, development, and production is at best questionable, and may, in the long run, actually require more time and expense than would deliveries more orderly planned. Let us consider the LVT, a specific example of this attempt to expedite deliveries by concurrent design, development, and production engineering. Because it was estimated that a delay in delivery of 6 - 8 months would result if prototypes were first tested, it was decided to go ahead with design and production on a concurrent basis. The net result of this decision was a 12 months delay in the planned production schedule and a tremendous increase in costs. This lends support to the idea that the more complex the item, or the more pronounced the departure from previous models, the more improbable that any benefit can accrue from concurrent development and production. If the urgency for equipment is rather immediate, it would seem wiser to correct deficiencies in current operational equipment, by incorporating such changes as are feasible in the best available proven design.

As a final consideration under this heading, let us consider some means of reducing the impact on production of frequent design changes.

Broadly speaking, design changes can be substantially reduced in most cases by more careful and complete development incident to production. Beyond this, this matter, as in the case of simplification and standardization, appears to involve an educational process and a careful consideration of the relative urgency of maintaining production versus improving operational characteristics.

The Problem of Realistic Delivery Schedules

Realistic scheduling of the production of military equipment is a vital step in military planning. Delivery of equipment and supplies must be properly phased with operational plans. Distribution of critical materials, components, and perhaps manpower must be based upon production time tables. The whole pattern of industrial effort is shaped by contract schedules. The Navy then has a responsibility in connection with its contracts to examine proposed schedules and insure that they represent feasible goals. The Department of Defense instructions for preparation of planned production schedules are very explicit in stating that schedules must be realistic and that among other things they should take into account the availability of facilities, material, manpower and other factors. On end items being produced for the first time, careful attention should be given to the status of the development, engineering data, and evaluation dates to assure realistic schedules.

An analysis of schedule slippages in production for the Navy shows that in manycases the schedules established have been unattainable and unrealistic in the light of known or foreseeable administrative and

production lead times required. This has been true of contract schedules and also of later revisions on some procurements. It has been stated by some that the incentive provided by such optimistic schedules serves to speed up deliveries and improve the production effort above that which would be attainable by a realistic schedule. There seems to be no positive proof either for or against such an assumption; however, it seems obvious that a capable objective would serve as a stronger incentive to produce than one clearly not attainable. It would seem that repeated failure to meet an infeasible schedule is a discouragement rather than incentive.

In order to establish more realistic schedules and to set up effective monitoring procedures an understanding of some of the factors which contribute to the determination of production rates and programs is essential. Among these are several for which the Navy as buyer is responsible. Mature design data including spare parts specifications must be furnished. Government-owned facilities and tools, or government sponsorship of accelerated amortization certificates must be provided. The planning for and allocation of controlled materials is essential and government-furnished equipment, to be incorporated in the end product, must be furnished when required. Last, but not least, the various administrative procedures for determining requirements, processing procurement documents, and handling contractural paper work must effectively be carried out.

There are two particularly significant functions in respect to determining realistic production schedules. One is related to the pre-contracting period, in which material requirements are translated into

procurement requests, and the other is related to the late delivery of government-furnished equipment. First, let us briefly discuss the importance of the actions taken during the pre-contracting period. For a delivery schedule to be realistic, all of the actions incident to purchasing need to be determined and scheduled. An important first step in doing this is the establishment of an orderly program and a time allowance for processing a material requirement through the pre-contracting administrative phase. This is not now done on anything like a well-organized basis. The lead time necessary for the various acts during this phase are not generally known. To bring this phase under better control it would seem that the various lead times should be statistically developed and incorporated into a system of visual programming. Progress could then be measured against the various programs.

Now let us briefly examine the impact of late delivery of government-furnished equipment. Many delays in the completion of end products can be traced to late delivery of government-furnished equipment. Frequently such equipment is so complex as to require long manufacturing cycles and in many cases even longer allowances for development, production, engineering, and prototype testing. Often the production cycle of a ship or aircraft is found to be shorter than that of a government-furnished component; since production of long lead time equipment is frequently a controlling factor in meeting the end item schedule, early determination and procurement of government furnished equipment is essential. Bureaus concerned with cases of this kind might:

1. Determine at the earliest possible time information as to the mission and characteristics of the end item for which the long lead time components are required.

2. Develop the list of government-furnished equipment, based on the characteristics and mission of the end items, sufficiently early to include a definite listing in the contract or procurement specification for the end product insofar as practicable.

3. Determine total lead time for each item of government furnished equipment including current manufacturing lead time, time for contract processing and plan development. Schedule the award of each contract for such government furnished equipment, particularly long lead time components, sufficiently early to permit delivery in accordance with the end-item production schedule.

4. Carefully schedule all procurement actions to give full consideration to the critical lead times required for government-furnished equipment.

Another basic factor entering into the determination of production schedules is the contractor's ability to handle the work. The purchaser must include an appraisal of this factor in evaluating any contract proposal and in setting up a realistic delivery schedule. The loading of producers with defense orders beyond their current capacity has often led to delays in delivery. This has been particularly true in the aircraft industry, where at the present time it is estimated the average backlog is between 6 - 8 years. This difficulty seems to indicate deficiencies in the consideration given to production capacity, including manpower availability and perhaps some lack of coordination among service contracting officers. In this respect, it might be well to mention that the Office of Naval Material maintains a rather complete list of contractors and their capabilities. Since the successful accomplishment of a program depends on selection of a competent contractor, the question of open capacity must

receive proper weight in the awarding of contracts. Sufficient time should be allowed by the bureaus to obtain production capacity information and where necessary to permit field surveys to be carefully made. Such survey reports must be analyzed and evaluated by the bureau concerned to insure that uniform and reasonable criteria are used in considering the capabilities of any contractor.

As in the case of long lead time government-furnished equipment, long lead time contractor-furnished components frequently become controlling elements in Navy production programs. A list of these components should be compiled in order to determine the date by which an end item contract should be awarded, in order that the contractor have time to meet the desired production schedule. If this determination indicates that the desired end item delivery is infeasible an adjustment of the program should be made. When the desired date is a practical one, production desks in the bureaus should benefit by maintaining close follow up to see that the contractor schedules his procurement actions in consonance with the lead time requirements generated in the study of the problem.

Another category of material requiring long lead time planning is the repair parts, tools, etc., furnished in accordance with ship allowance lists or other end product repair parts listings. It is highly important that these lists be prepared early in the planning cycle of the end product and that care and diligence be exercised in their preparation. Both from a military readiness and economy point of view, it is believed procedures should be established to assure concurrent procurement and

production of on-board spare parts and stock repair parts with parent equipment whenever possible. Figure 4 is a "Graphic Production Plan" of a typical aircraft model. It shows the integration of most of the considerations previously discussed. Figure 5 is a similar plan for a typical electronic equipment. Figure 6 is a list of administrative elements essential to production and to delivery on schedule for most equipments.

To summarize, the problems of realistic delivery schedules center around the availability of plans, materials, manpower and facilities, when needed. It is believed fair to say that unless these essentials of production are carefully studied and accurately evaluated the production planning rests upon an unsound foundation and the schedules for delivery of end items cannot be considered realistic.

Fig. 4. GRAPHIC PRODUCTION PLAN

MODEL (TYPICAL)

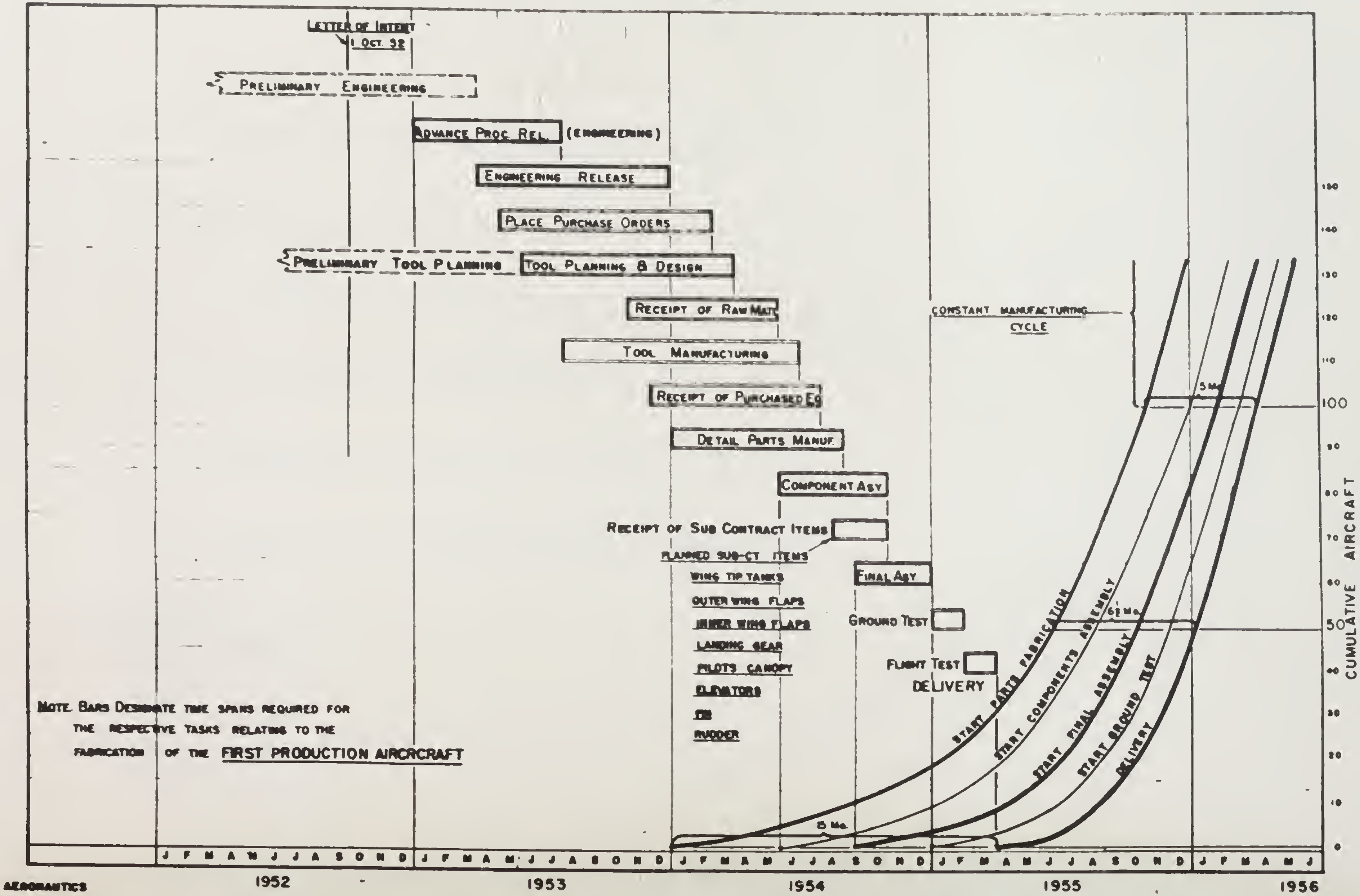

Fig. 4

BUREAU OF AERONAUTICS
PRODUCTION DIVISION
WASHINGTON DC
PU... 12 Jan 53

Fig. 5.

GRAPHIC PRODUCTION PLAN
FOR AN ELECTRONIC EQUIPMENT

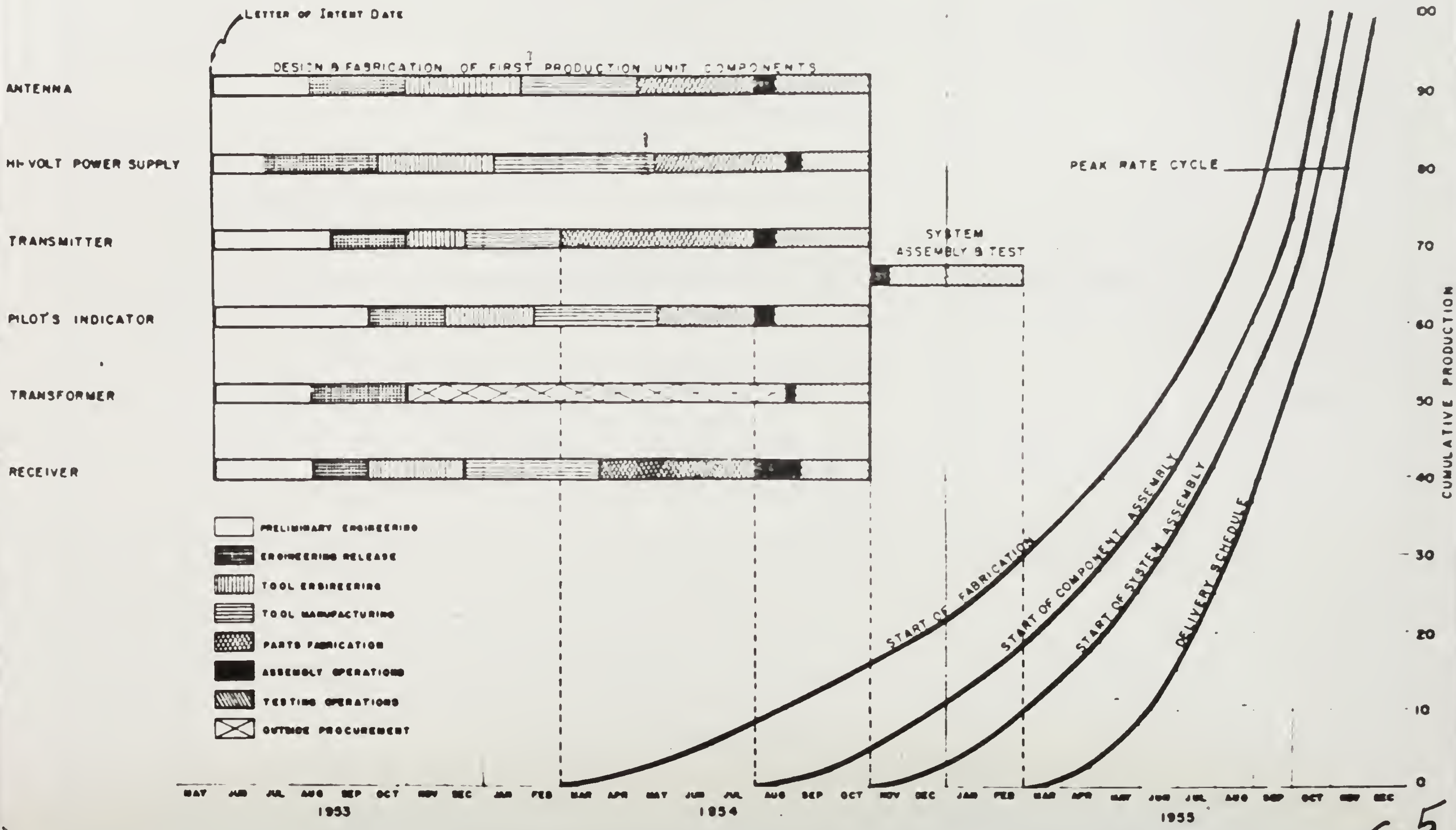

EXHIBIT B

Fig 5

Fig. 5
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Fig. 6.

SUPPORTING SCHEDULES AND CHECK-OFF LISTS

CHECK-OFF LIST			ELEMENTS	MAJOR GROUPS	
BUREAU	CONTRACTOR	OTHER			
			Development Design	Design	DELIVERY
			Contract Plans		
			Contract Specifications		
			Vendors' Plans		
			Design and Production Data to be Furnished by Government		
			Working Plans (Shop Drawings), with emphasis on Central Design Agent		
			Bills of Material		
			Changes		
			Facilities Contract	Facilities	
			Rearrangement of Shop Layout		
			Tools, Jigs, Etc.		
			Ways and Other Facility Schedules		
			Government Furnished Equipment	Material	
			Centrally Procured		
			Contractor Purchased		
			Material Ordering Schedule		
			Schedule of Shipments from Vendors		
			Allocation of Scarce Materials		
			Phased Requirements of Manpower	Manpower	
			Breakdown by Trades		
			Fabrication of Parts	Production	
			Sub-Assemblies		
			Final Assembly or Erection		
			Test and Inspection		
			Production Control System		
			Finances		
			Management		

Fig. 6

CHAPTER IV

SOME ASPECTS OF SINGLE SERVICE PROCUREMENT

In view of considerations arising from "single service" procurement, the writer decided to briefly discuss in this paper some of the aspects thereof. "Single service" procurement stems from the Armed Forces Procurement Act of 1948 (Public Law 413, 80th Congress), and is interpreted to mean the acquisition of designated supplies and services by one military department to satisfy its own requirements and those of one or more other departments. The scope of this Act, as applied to single service procurement is not entirely clear, but is generally considered to apply to broad classes of items in common use, with the heaviest user of that class of items being designated the procuring agency for itself and all others. Some examples of this type of procurement are: (1) solid fuels; (2) lumber; (3) construction, mining, and excavating equipment; (4) certain ordnance material; (5) photographic equipment; (6) combat ships and landing vessels; (7) railroad equipment; (8) hand tools; (9) mess and galley equipment; (10) subsistence; (11) paint; (12) automotive equipment; and many others.

It is understood that Congress was, for the most part, motivated to pass this Act on the basis that certain benefits would accrue to the government: These benefits have been stated to be:[1]

1. Improved relations with industry.
2. Elimination of inter-service competition.

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[1] Single Department Procurement of Paint, prepared by Mobilization Analysis Center, Graduate School of Business Administration, Harvard University, Boston, Mass., August 1951.

3. Promotion of economy through lower purchase prices and lower administrative costs.

4. Better performance of the purchase function.

It is perhaps significant that the principal support for this Act, both by Congress and the public in general, seems to stem from their belief that it will insure economical procurement in the military.

From the military point of view, the matter of military effectiveness must be considered along with such other benefits as may accrue as a result of single service procurement. We might define military effectiveness as used herein to mean the degree of availability of an given item when needed and where needed. It is obvious that for many items, a low degree of military effectiveness would not be acceptable to the military service concerned.

In the light of what has already been said about "single service" procurement let us examine some of the broad considerations involved in evaluating its effectiveness.

Since economy through volume of purchases is one of the primary considerations behind this type of procurement, it should be interesting to look at some of its aspects. Most procurement people, in the military as well as in business, know that there is an optimum quantity from the standpoint of cost. Of course one can not always buy in optimum quantities for it might result in increased re-handling and inventory maintenance costs, possibly more than offsetting the savings from purchase in optimum quantities. Then, too, there are those who confuse the economy of purchase in quantity with the purchase of optimum quantity. Stated simply, there are those who

believe that the more of a thing one orders, the cheaper will be the unit cost. This is just not so, for we get back to the old economic law of "supply and demand." The minute the demand begins to push normal supply you can expect not a decrease but an increase in unit cost, regardless of purchase volume. This point is very well illustrated in the case of single service procurement of paint. It was found that the optimum quantity to order from the standpoint of cost ranged from 1000-5000 gallons, and that quantities in excess of 5000 gallons actually get progessively more costly.[2]

Another measure of effectiveness stems from possible savings which may accrue to the government through decreased administrative expenses incident to single service procurement. Before this can be resolved many questions must be resolved. Some of the more important ones are:

1. To what extent shall we standardize specifications? To what extent will this retard development?
2. Shall single service procurement be limited to the purchasing function or shall it embrace all of the procurement functions, such as; development of requirements, inventory control, shipping instructions, distribution, and substitute items?
3. If limited to the purchasing function, will economy through administration actually accrue or will the problem of [illegible]f getting the item into the respective supply systems more than offset such savings?
4. If not limited to the purchasing function but extended to include all phases of procurement, what will be the impact on military phasing in each service? Military effectiveness?
5. What savings and increased purchase effectiveness may accrue from single service inspection?
6. The cost of generating purchase status data to all the services?
7. Will military readiness and effectiveness be adversely affected? If so, to an extent offsetting possible economies?

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[2] Ibid., pp. 1-8

It is quite clear that the idea of single service procurement must be evaluated in the light of what has been said. At any rate, very careful consideration should be given to all the implications before any item is designated for single service procurement.

It is the opinion of the writer that this type of procurement should be quite limited in its application. This opinion stems from both the overall economy and the military effectiveness point of view. The writer further believes that in general more economy and military effectiveness is attainable through the individual services on the basis of improved procurement planning, prevention of overbuying, and close coordination of requirements, inventory control, and procurement personnel.

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